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Water Grabbing in the Mekong Basin – An Analysis of the Winners and Losers of Thailand's Hydropower Development in Lao PDR

Nathanial Matthews
King's College London, London, UK; nathanial.matthews@kcl.ac.uk

ABSTRACT: There are currently over 60 tributary and mainstream dams planned or under construction in Lao PDR with 95% of the electricity from these dams slated to be exported to neighbouring countries. In the Mekong basin, the structure of the Thai energy sector – the country's lack of domestic hydropower development and the current and planned power purchase agreements between Thailand and Laos – differentiates Thailand from other regional investors.

Using a political ecology approach, this paper examines how powerful state and private actors from within Thailand and Lao PDR mobilise power to control the benefits from hydropower while the social and environmental impacts are largely ignored, thereby constituting a form of water grabbing.

The analysis shows that the structure and politics of the Thai electricity sector, private-sector profiteering and a strong domestic civil society are driving Thailand's hydropower investment in neighbouring Laos. Thai investments are enabled by Laos' weak enforcement of laws, a lack of capacity to regulate development, the existence of corruption and a tightly controlled state. These drivers and enabling factors combine with short-term economic focused regional development to create opportunities for water grabbing. The winners of this water grabbing are the powerful actors who control the benefits, while the losers, local livelihoods and the environment, are negatively impacted.

KEYWORDS: Hydropower, water grabbing, energy development, political ecology, water-energy nexus, Lao PDR, Thailand, Mekong

INTRODUCTION

As the Mekong river carves its way from its headwaters in the Tibetan plateau to the South China sea it nourishes a basin that is home to a population of approximately 70 million and some of the richest biodiversity on earth (Grumbine and Xu, 2011). This biodiversity encompasses the world's largest inland fishery with over 1200 species of fish including many endemic species such as the giant Mekong catfish and the Mekong river dolphin (Barlow et al., 2008). However, much of the basin's unique ecology and the livelihoods that depend on it are under threat from a renewed global interest in hydropower development, which if it is poorly planned will have devastating social and environmental consequences (Molle et al., 2009; Pearse-Smith, 2012).

This resurgence in global hydropower is being driven by increasing demands for clean energy, cheap electricity and potential profits (IEA, 2011; Hackley and Westhuizen, 2011). Most of the remaining global hydropower development potential exists in Africa, Asia and Latin America. According to a 2011 International Energy Agency (IEA) report, global hydropower could grow by as much as 85% by 2050, an increase of 150 to 200 GW of new generating capacity (IEA, 2011). Chinese state-owned hydropower companies alone, such as Sinohydro Corp. and Dongfang Electric Corp.; financed by Chinese banks, are constructing approximately 300 projects in 78 countries worldwide (Hackley and Westhuizen, 2011).

The scale of the hydropower boom in South-East Asia is perhaps best observed in Lao PDR. This small landlocked country which contributes 35% of the Mekong river's flow has over 60 dams planned

or under construction including plans for nine mainstream dams (see figure 2) (Grumbine and Xu, 2011). Thailand is one of the main investors in hydropower in Lao PDR. The Government of Lao PDR (GoL) has committed to supplying 7000 MW to Thailand by 2015 (GoL, 2010b). The controversial US$3.6 billion Xayaburi dam in Laos, if constructed will be the first mainstream dam on the lower Mekong, funded by Thai banks and developed by a Thai construction company.

Hydropower is a potentially cheap source of electricity with generally lower greenhouse gas emissions compared to burning hydrocarbons (Barros et al., 2011; Chanudet et al., 2011). However, dams can also have significant negative impacts. They can displace populations, destroy cultures, and alter the flow, temperature, water quality, sediment loads and ecosystems that depend on water, rendering it unusable for irrigation, environmental services, fisheries and livelihoods.

Water grabbing occurs in hydropower development when powerful state and private actors are able to mobilise power to control the benefits of hydropower while livelihoods and ecosystems that depend on the water resources that hydropower disrupts are negatively impacted (see introduction to this special issue).

This paper demonstrates that in the Mekong, a convergence of drivers and enabling factors has created opportunities for powerful state and private actors from Thailand and Lao PDR to mobilise political, institutional and economic power to control the benefits of hydropower while the social and environmental impacts are ignored, thereby constituting a form of water grabbing.

Using a political ecology approach the drivers and enabling factors, and winners and losers of water grabbing in the Thailand and Lao PDR case study are examined. The first section provides a background to the region's key hydropower actors and outlines the water grabbing framework and the following one examines the drivers from within Thailand. I then explore the enabling environment in Laos, before analyzing the role of regional state cooperation in water grabbing. The paper ends with some concluding remarks about water grabbing and hydropower development in the basin and around the world.

BACKGROUND, OUTLINE AND FRAMEWORK

Hydropower in the Mekong basin has been under consideration since the 1950s, but due to a number of factors including conflict, a lack of finance, political risk, difficult geography and environmental concerns, very little has been actualised. In an influential policy report, the World Bank and Asian Development Bank (WB/ADB, 2006) estimated that only 10% of the basin's hydropower potential is in use. These estimates and the reports in which they appear also imply that the basin has the 'flexibility and tolerance' to handle an increase in hydropower development including mainstream dams (WB/ADB, 2006).

The 2006 WB/ADB report offers a particular conceptualisation of water that appears in pro-hydropower rhetoric. By stating that 90% of the basin's water is not in use for hydropower, this interpretation disregards multiple or best uses of water within the basin. Water in the Mekong is inextricably linked to culture and livelihoods, and is essential for the basin's ecosystems (Dugan et al., 2010; Matthews 2011). A study by Costanza et al. (2011) showed that using worst case scenarios, calculating the loss of environmental services, agriculture, fisheries and tourism etc; if all the proposed 9 mainstream dams are constructed in Lao PDR the people and economies in the Mekong basin would lose a total of US$307 billion in net present value (NPV).

The strength of South-East Asian economies and a global push for clean energy have resulted in hydropower returning to the development agenda in the Mekong (see figure 2). In Laos, a country with a per capita income of US$1177 and few natural resources, hydropower is viewed as an important source of income (World Bank, 2012). The GoL has adopted a strategy of opening itself to inward investment and resource development as part of its plan to be the battery – the energy source – of South-East Asia (Bardacke, 1998; AG-DFAT, 2011). Hydropower currently represents one of the main drivers of the economy with export income in excess of US$4.1 billion since 2001 (Vientiane Times,

2010). If all the purposed mainstream dams in Lao PDR are constructed they would generate an estimated US$25 billion in foreign direct investment and 70% of electricity export revenues, or US$2.6 billion a year (Stone, 2011). There are currently 11 dams in operation with a total capacity of 1914 MW, a further 7 projects under construction and 66 in the planning or feasibility stage including 9 mainstream dams as of 2010 (GoL, 2010a; figure 2).

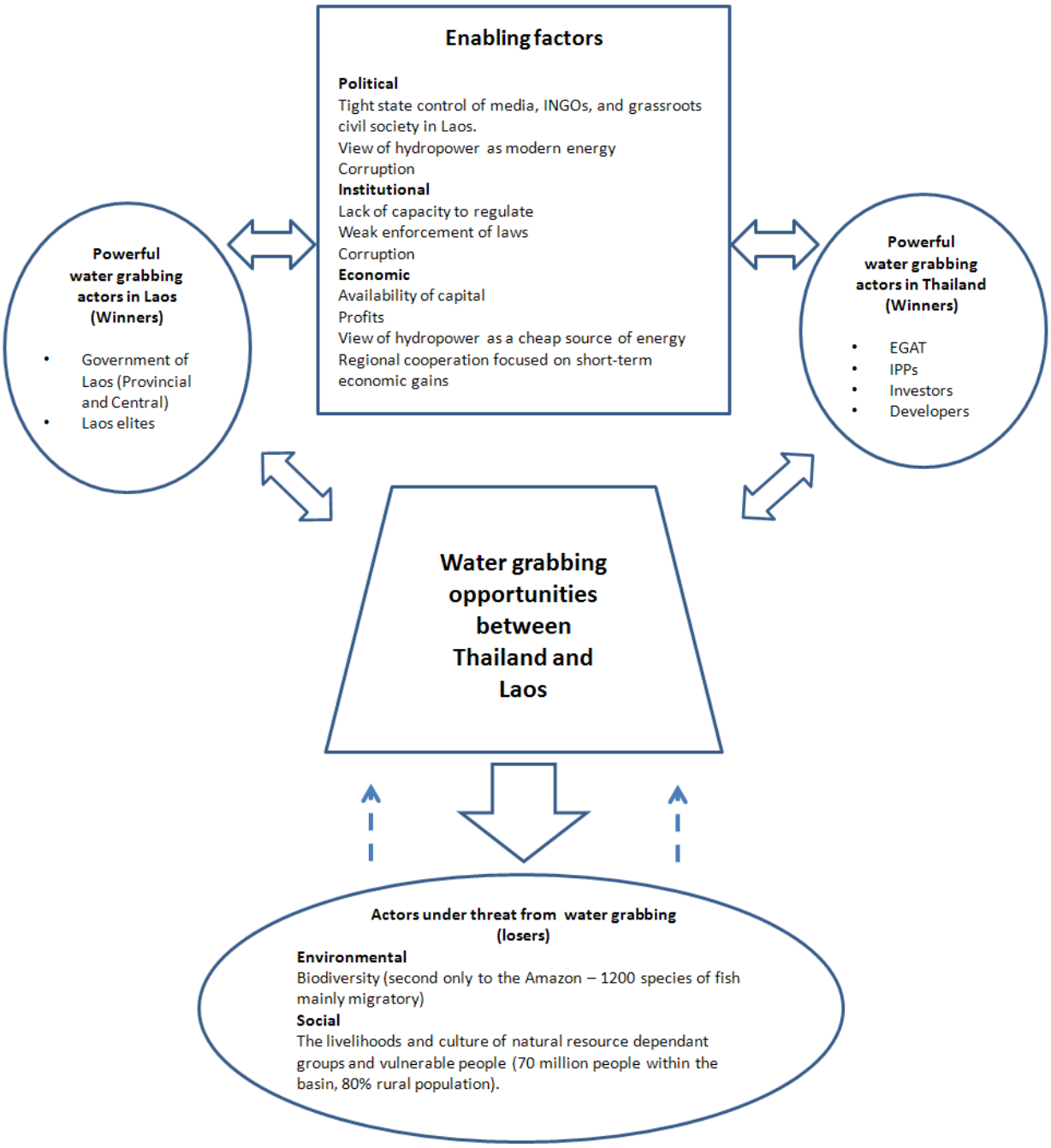
Although these numbers are impressive in terms of their potential benefits, what concerns conservationists and groups dependent on natural resources is the rapid pace of construction and lack of consideration of social and environmental impacts. Hirsch (2004), Lebel et al. (2005) and Molle et al. (2009) have all been critical of hydropower development in the basin arguing that without proper planning and consideration of social, engineering and environmental costs hydropower will be devastating for local people and the environment. Critics of the development have demonstrated how many dams are built with inadequate impact assessments, incorrect hydrological assessments, unsafe engineering, insufficient compensation and support for relocated people, and little or no consideration of their effect on the fisheries, biodiversity and livelihoods in the region (Molle et al., 2009; Foran et al.; 2010a). In the Mekong basin, wild fisheries, which account for 47-80% of total animal protein intake, are at risk from hydropower (Hortle, 2007). Dams constructed on the Mekong tributaries and the mainstream threaten to greatly disrupt this source of animal protein and the biodiversity of the river because 40-70% of fish in the basin are migratory (Barlow et al., 2008; Baran and Myschowoda, 2008).

Political ecology has been employed as a useful approach in critically analysing Mekong Basin Development (Bakker, 1999; Sneddon and Fox, 2006). Political ecology throws light on the relationships between politics, power, livelihoods and environmental change in a basin where the majority of the population is dependent on natural resources. Sneddon and Fox (2006) demonstrate that in the Mekong, as in many areas of the world, water is a resource that is managed by powerful actors. They remind us that cooperation in river basins can lead to the degradation of natural resources, thereby adversely affecting the people who depend on them.

Profits, or benefits from hydropower in the Mekong, come in a variety of forms. They materialise as construction contracts, timber profits, electricity sales, increased share prices, power and corruption. The construction of large-scale dams also provides a means for large-scale construction bureaucracies to export expertise, technology and biases to less-developed states. Water grabbing is defined here to occur when the benefits from hydropower are controlled by powerful actors from Thailand and Laos. In this case study, these powerful actors are the ones who stand to benefit or win from water grabbing opportunities, while the negative consequences, including environmental and livelihood impacts are borne by vulnerable groups, the ones who stand to lose.

The political ecology analysis of the winners and losers of water grabbing in Lao PDR demonstrates that, in Lao PDR, hydropower dams are being pushed forward by the increased involvement of powerful private and state-backed actors from Thailand and Lao PDR seeking both profit and power, while the negative impacts of these dams are often ignored. Dams are being constructed that neglect long-term water resources planning and forgo their potential multi-use benefits (such as irrigation and reservoirs that support fisheries and tourism) thereby locking up sites for 30-50 years that are singularly focused on electricity production. The analysis in this paper demonstrates how a confluence of political, economic and institutional structures between Thailand and Lao PDR combine with a lack of cooperation over water resources management in the region to enable water grabbing. Analysing Thailand's hydropower development within the water grabbing frame provides an alternative perspective to the political rhetoric from the region that "Thailand is helping its neighbour make the best use of its resources" (World Bank, 2007). Figure 1 outlines these forces and the winners, losers, and enabling factors of this water grabbing case.

Figure 1. A summary of the powerful actors and enabling factors that combine to create water grabbing opportunities between Thailand and Lao PDR, and the losers of the water grabbing.



In figure 1, the spheres of water-grabbing actors in Lao PDR and Thailand are those who drive water grabbing opportunities through power and profit seeking. These powerful actors stand to benefit or win from water grabbing, either through increased power or economic gains. The enabling factors include the political, institutional and economic conditions within Lao PDR and regionally that allow powerful actors to control the benefits of hydropower development. Water grabbing opportunities are created when the mobilisation of powerful actors combines with the enabling factors allowing the benefits of hydropower to be controlled. The actors under threat from water grabbing, or those who stand to lose,

are impacted by the social and environmental costs of this water grabbing, as outlined by the large arrow, but the segmented arrows show they have limited influence over it because of the combination of the enabling factors and powerful actors is too great.

Within Thailand there are a number of powerful actors that are driving the water grabbing phenomenon. The state-owned Electricity Generating Authority of Thailand (EGAT) is involved in the funding of dams and is the primary purchaser and sole distributor of electricity within the country. The following analysis shows that EGAT, entrenched in Thai politics, has an organisational structure that favours investment over alternative, politically challenging options such as energy savings. Independent power producers within Thailand and the growing interest of the Thai private sector, both investors and construction companies, in the potential profits from hydropower development are also powerful actors pushing forward hydropower development for profits. Ch. Karnchang Public Company, the Thai construction company that is the main developer of the Xayaburi mainstream dam, announced that construction of the dam will generate 30% of the company's total revenue in 2012 (Bangkok Post, 2012).

The drivers from Thailand converge with a political, institutional and economic environment in Lao PDR that enables water grabbing. In Lao PDR, water grabbing is enabled by a lack of capacity to regulate development, weak enforcement of laws, existence of corruption, the view of hydropower as a clean and modern energy and a tightly controlled state. This enabling environment in Lao PDR restricts international NGOs, civil society and freedom of information thereby inhibiting transparency and offering opportunities for social and environmental impacts to be ignored. Powerful actors in the country are enticed by the potential wealth that hydropower offers both to the economy and to private interests (Simpson, 2007; Grumbine et al., 2012).

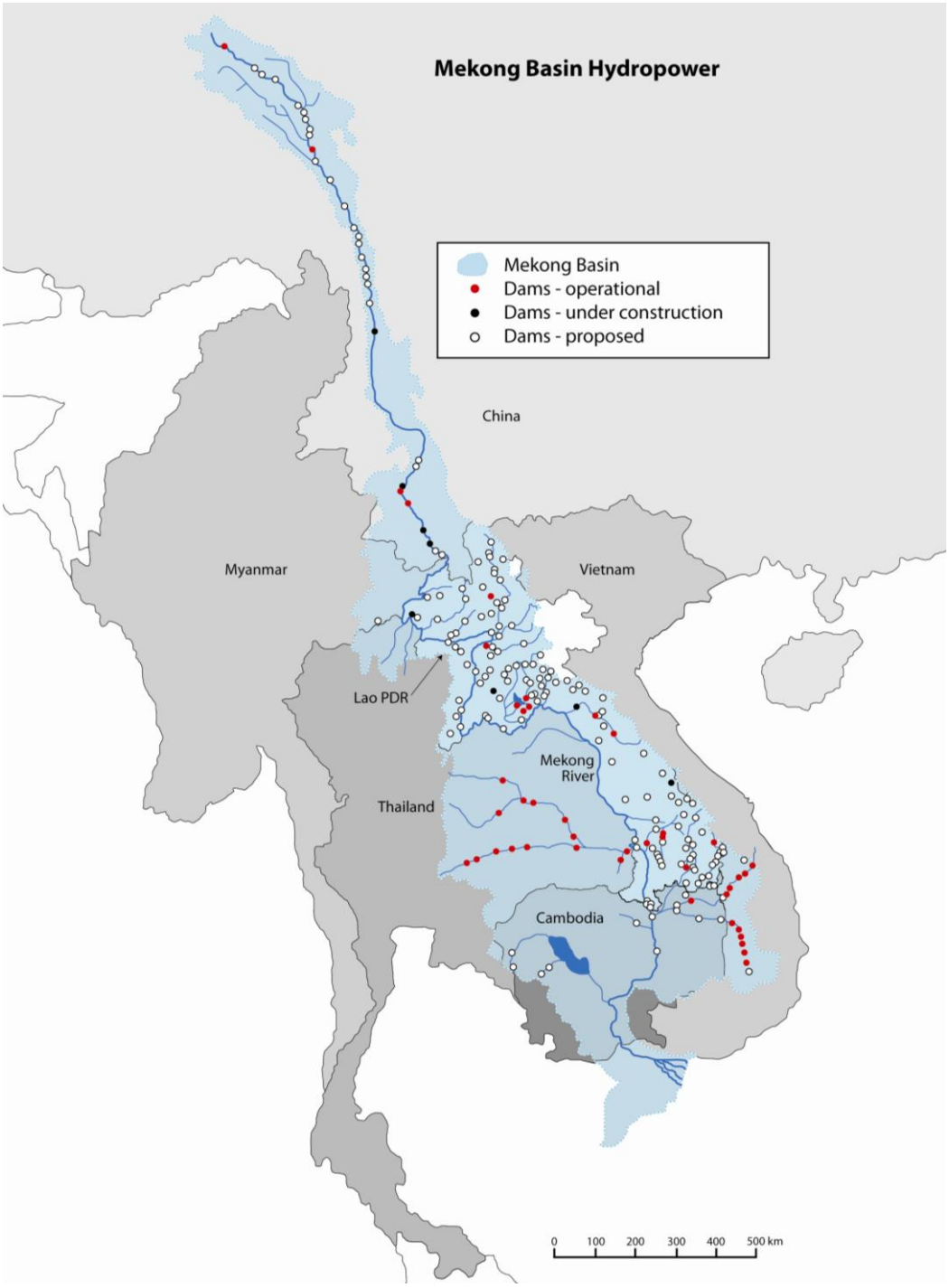
Regional and domestic civil society also plays a role in water grabbing. Civil society is a diverse group of actors with multiple and sometimes conflicting agendas. For the purpose of this paper, civil society is examined for its influence or lack thereof in water management and more specifically hydropower. In Thailand, civil society has limited the power and reach of the state and policy agendas, halting the construction of domestic dams in the Mekong basin (Sneddon and Fox, 2007). Regionally, civil societies from Thailand, Cambodia and Vietnam have joined together to oppose the construction of mainstream dams (SMH, 2011). However, in Lao PDR the role of civil society has been less influential. Grassroots civil society is prohibited, and international civil society is only permitted to operate within limits imposed by the government.

Finally, the backdrop of regional cooperation that is focused on short-term economic gains as opposed to long-term shared water resources management of the basin has influenced water grabbing opportunities (Jetschke and Rüland, 2009; Sneddon and Fox, 2012). A lack of meaningful cooperation over the management of the region's water resources, both between states and within the regional basin organisation, the Mekong River Commission enables this grabbing. States are pressing forward with hydropower agendas that serve state and private agendas in their respective countries. The Mekong River Commission (MRC) also appears to have limited effectiveness in managing hydropower development due to the dominance of regional politics, with dams being built or proposed across the basin in an unplanned fashion (see figure 2).

DRIVERS FROM WITHIN THAILAND

Thailand is an upper middle income country with the highest per capita income in the Mekong basin (World Bank, 2011). Thailand plays a pivotal role in South-East Asian (South-East Asian) regional trade, with a 17% share in commercial services, a 20% share in imports and a 15% share of regional exports (UNESCAP, 2012). Electricity demand in Thailand has risen approximately 7% a year as a result of the country's economic growth (Wisuttisak, 2012b). The industrial and commercial sectors are the biggest consumers of electricity in Thailand consuming 42.4% and 35.56%, respectively, predominately in urban areas (Teansri et al., 2012).

Figure 2. Operational, under construction and proposed hydropower dams on the Mekong basin (CPWF, 2010).



In Thailand, powerful state and private companies are driving hydropower development in Lao PDR to control the benefits of these projects. The Thai state, acting through the state-owned EGAT, has a monopoly over electricity generation and distribution within the country, and actively invests in hydropower and natural gas projects in its neighbouring countries of Lao PDR and Burma (Wisuttisak, 2012a). Despite attempts at reform and liberalisation the Thai energy sector has weak domestic

competition laws, a lack of institutional independence and weak regulation, which have allowed EGAT to wield considerable power and influence over state and private energy investments (Wisuttisak, 2012a).

EGAT's hydropower investments and the structure of the Thai energy sector have also created numerous opportunities for private sector actors in Thailand. A growing number of Thai banks, construction companies, and independent power producers are investing or constructing hydropower projects with EGAT (Middleton et al., 2009).

In Thailand, unlike in Lao PDR, civil society has also played an important role in regulating state investments in energy. From 1960 to 1990, Thai state energy policies focused on domestic hydropower projects (Hirsch, 1995). However, with the strong civil society opposition to the Pak Mun and Rasi Salai dams in the 1990s, domestic hydropower projects ceased. With hydropower a politically sensitive issue in Thailand, EGAT was forced to look to its neighbouring countries where hydropower could be constructed with few constraints (Hirsch, 1995).

EGATs dual role as both supplier and distributor of electricity means that it has a vested interest in high energy demand, which ultimately drives hydropower development. This vested interest has resulted in, among other issues, unreliable energy projections. From 1992 to 2007, EGAT's Power Development Plan over-projected demand 12 times in a row (Greacen and Palettu, 2007). EGAT's energy demand calculations are planned by taking the peak load energy demands and adding 15%. This over-projection of demand can be utilised by EGAT as justification for the need for increased hydropower dam construction.

Another key issue within the Thai energy sector that ultimately drives hydropower development in Lao PDR is in EGAT's profit structure. EGAT's profits are currently capped at 8.4%. To raise the value of the company beyond this cap it must increase its Return on Invested Capital (ROIC) (ibid). ROIC is the return a company earns on the money invested in itself. This model may be effective in certain cases, but a lack of regulation in the Thai energy sector enables EGAT to invest in expensive energy projects, where it can benefit from the purchase, distribution and sales of electricity, thereby increasing the profit it generates. Expensive investments such as hydropower are justified by the inflated projected energy demands and in the growing Thai economy, where finance is increasingly available and there are many potential investors.

Cheap power for consumers and industry is important for the success of political parties. In Thailand, electric power has been at the centre of national politics for the last three decades and continues to play a prominent role. Over the past 30 years, Thailand's electricity demand has grown by 3-7% (Jarvis, 2010). Much of this growth has been spurred by government policies to scale up investments in the industrial sector and by the growing consumption of electronic goods by increasingly affluent households. Thailand currently relies on natural gas to supply 70% of its electricity demand (EPPO, 2007). With approximately 30 years of supply left, hydropower is increasingly slated to take up this demand and provide a clean source of renewable energy.

Since 1969, the state-owned enterprise responsible for all electricity transmission and the majority of electricity production in Thailand has been EGAT. EGAT has strived to remain the top player in the Thai energy sector keeping its dominant bureaucratic control despite decades of political challenges and privatisation reform.

In the 1970s and 1980s, EGAT, struggling under massive costs and burgeoning debt, went through a series of reforms as part of International Monetary Fund (IMF) and World Bank conditional structural adjustment loans. These reforms called for the privatisation of EGAT and the introduction of privately operated independent power producers (IPPs) (Wisuttisak, 2012b).

These initial reforms resulted in very little real change in the power structure within the Thai energy sector. EGAT entrenched its position by purchasing significant interests in many of the emerging IPPs. EGAT currently owns a 45% share in Ratchaburi Electricity Generating Holding Public Company Limited (RATCH) and a 25.5% share in Electricity Generating Public Company Limited (EGCO) the country's two largest IPPs (EGAT, 2009). Furthermore, many IPP board members were former EGAT employees. The

IPP model in Thailand exists in name, but not in practice. In reality, these powerful actors, EGAT and the IPPs, are closer to a public private partnership with the Thai state wielding considerable influence (Wisuttisak, 2012b).

Initiated by the Asian financial crisis of 1997, the IMF, as part of the bailout package for the country, once again called for major reforms to the Thai electricity sector including regulation and a stronger move towards privatisation. These reforms were met with staunch resistance by EGAT and much of the Thai population. Consumers feared increasing prices, unionists feared job losses and nationalists feared foreign ownership. The unpopularity of these reforms and the state of the economy paved the way for political change. With the election of populist Prime Minister Thaksin Shinawatra, privatisation reforms were halted and EGAT became a 'national champion', a protected state-owned company, and regained the full political backing it had once enjoyed, further solidifying its position on top of the energy sector (Chirarattananon and Nirukkanaporn, 2006; Wattana et al., 2008).

Calls for electricity sector reform were once again at the top of the political agenda after a 2006 military coup overthrew Prime Minister Thaksin Shinawatra. EGAT lost its status as a national champion and it appeared that regulation and increased privatisation were inevitable (Wisuttisak, 2012a). In 2007, the Energy Industry Act was implemented and established the Energy Regulatory Commission (ERC) (ibid). The ERC's mandate was to independently regulate the energy sector and provide a check to EGATs dominance. In reality, little has changed since 2007 in part due to political instability in the country and the institutional entrenchment of EGAT holding the reins of power for over 30 years (Wattana et al., 2008; Wisuttisak, 2012a, 2012b). With the 2011 election of populist Prime Minister Yinluck Shinawatra (Thaksin's sister) EGAT may continue to control the country's energy development for the foreseeable future.

The introduction of the IPP model and EGAT's position as generator, purchaser and supplier of electricity in the region has the potential to influence the number of hydropower dams being constructed and the way they are constructed. EGAT faces a conflict of interest in that it desires low-cost electricity, but also aims to bolster the profits of the IPPs. As EGAT has interests in the IPPs, it can encourage them to use their capital as its own development arm. Many of the IPPs in Thailand are signalling their desire for acquisitions abroad in South-East Asia (Wood, 2010). These investments increase their influence and boost their share prices thereby increasing EGAT's profits. By maintaining its monopoly on electricity supply, EGAT ensures that consumers do not have the choice to buy electricity from other suppliers who may have green credentials (Wisuttisak, 2012b). The current structure of EGAT results in price regulation that favours EGAT at the expense of Thai consumers (Wisuttisak, 2012b).

As outlined above, the IPPs and EGAT are focused on the provision of cheap electricity and the construction of dams to increase profits. This focus on dams that provide electricity can lead to the construction of hydropower dams that are optimised for the singular purpose of power generation instead of incorporating multi-use benefits. Hydropower dams can be constructed to integrate a number of non-electricity benefits including irrigation, sedimentation transfers, and reservoirs that provide habitats for fish and can be used as man-made lakes. However, powerful state and private actors in the Thai energy sector encourage hydropower that is built rapidly and solely focused on power generation for Thailand. This can result in the potential benefits of dams being foregone. Optimisation for power alone in hydropower locks up the site engineering-wise for 30-50 years into a single development path and prevents the water being used for higher-value activities in the future. Post-construction modifications of the hydro to allow irrigation are generally considered infeasible.

Regional investors are enticed by the high potential returns to investment in hydropower projects. As will be shown in this analysis, returns are made higher by an enabling environment in Lao PDR that allows developers to maximise profits to the detriment of the majority of the Lao PDR population and the environment. Private investors are also more attractive to developers as their investments do not come with the social and environmental guidelines that regulate World Bank and the Asian Development Bank investments (Shankleman, 2009; Grumbine et al., 2012).

The structure of the Thai energy sector, EGAT's entrenched political power, and potential profits that incentivise EGAT and the private sector to build hydropower dams and explore cheap electricity options have contributed to Memoranda of Understanding (MOUs) on power purchase being signed with Lao PDR for 7000 MW by 2015 with the majority of this supply coming from hydropower. Currently, approximately 1450 MW is being supplied (Foran et al., 2010b; Cruz-del Rosario, 2011).

Thai civil society has played a role in shaping energy policy within and outside the country. It has strongly opposed hydropower construction in Thailand and mainstream dam construction in Lao PDR. According to the Thai Energy Policy and Planning Office (EPPO), existing potential for hydropower in Thailand is 15,155 MW with only 3438 MW of installed capacity (EPPO, 2010 cited in Sawangphol and Pharino, 2011). Despite this latent hydropower potential there is a noticeable lack of inward investment in Thailand. Domestic hydropower in Thailand became a contentious political issue during the 1990s with the development of the Pak Mun and Rasi Salai dams and the subsequent popular uprising of the Assembly of the Poor (Missingham, 2003). The unpopularity of hydropower in Thailand amongst Thai civil society has resulted in no further large-scale hydropower projects being constructed in the country. Thai civil society has been vocal in ensuring that Thailand's energy policies do not adversely impact on Thai natural resources and local people (Sukkumnoed et al., 2006; Foran, 2006). This has resulted in EGAT and private investors looking to its neighbours, Lao PDR and Burma for hydropower investments.

Thai civil society has also been vocal against hydropower dams along the Mekong mainstream. In 2011, over 39 Thai, Cambodian, and Vietnamese NGOs with international counterparts joined a regional campaign against the construction of the Xayaburi dam (STM, 2011). Thai NGOs have been consistently vocal against mainstream dam development and hydropower in their backyard; however, they have little influence on how neighbouring countries develop hydropower deep within their borders.

Despite drivers from within Thailand to build hydropower in neighbouring countries, the issue of security still remains. If Thailand is relying on neighbouring countries for electricity this would appear to compromise the nation's energy security (Baumann, 2008). It is easy to cut a transmission line but rather difficult to move a dam. Relying on Lao PDR for electricity is a potential security risk for Thailand, but the reality is that it has left itself with few options in terms of the development trajectory it has chosen. With a dwindling natural gas supply, the Thai energy sector is centrally controlled, poorly regulated and finds profits in expansion instead of energy savings (Wattana and Sharma, 2011). In addition, Thailand has a long history of trade with Lao PDR. Relations with Burma are less well established. It has been importing power from Lao PDR for 40 years and the GoL is judged to be relatively stable (Foran et al., 2010b). However, incentives from within Thailand alone do not result in dams and water grabbing; there needs to be favourable conditions to allow investment and construction to occur.

THE ENABLING ENVIRONMENT IN LAO PDR

Water grabbing opportunities manifest when an enabling environment allows powerful actors to monopolise the benefits of hydropower while the environmental and social costs are neglected.

As noted above, Lao PDR opened its doors to hydropower investment in 1991. The World Bank, ADB, United Nations Development Programme (UNDP) and bilateral Western donors encouraged Lao PDR to develop its large hydropower potential through private-sector investment (Middleton et al., 2009). The billions of dollars in potential revenue from hydropower have the possibility to provide a vital source of income to Lao PDR and bring many positive benefits. Although the Government of Lao PDR has welcomed private investment, there are serious questions as to whether it has the capacity and willingness to properly respond to its neighbours' demands for hydropower.

Lao PDR, a one party communist state, is one of the world's most highly controlled countries. Despite high growth rates in recent years of 7-8%, the country has poorly developed infrastructure and 27.6% of the population remains below the poverty line (World Bank, 2012). In terms of hydropower

development, a number of political, institutional and economic factors give Lao PDR a competitive advantage for powerful actors looking to capitalise on water grabbing opportunities.

Lao PDR has strong policies in place to regulate hydropower development. These include the Environmental Protection Law (1999), the Water and Water Resources Law (1996), the Electricity Law (1997), and the Forestry Law (1996), which all require EIAs to be completed for all development projects that will potentially impact the environment. The EIA Decree (2010) specifies the components and process of an EIA and requires all investment projects in Lao PDR to undertake an EIA (Campbell, 2011). Despite these policies a number of issues remain with EIAs in Lao PDR.

Challenges in the impact assessment process in Lao PDR lie not in regulation, but in the inconsistent implementation and enforcement of existing laws and EIA implementations coupled with the existence of corruption and the closed nature of the state. EIAs in Lao PDR are mandated by law; however, there appears to be a lack of capacity from the government to monitor their implementation and to properly review the large number of EIAs that have resulted from increased investment (Foran et al., 2010a). In 2008, The Lao Department of Environmental and Social Impact Assessment (DESIA) was established within the Water Resource and Environment Administration (WREA). DESIA is supported by the World Bank, and is responsible for reviewing EIAs in Lao PDR; however, the organisation has only recently expanded its staff to meet the current demand and has little influence amongst government decision makers (Campbell, 2011). The majority of the approximately 80 individuals who now work in the department are fresh graduates with little experience. There is a lack of cooperation between central and local authorities in the project approval process, with many investment projects starting construction before obtaining permission or completing an EIA (Foran et al., 2010a). Despite efforts to improve laws, regulations, policies and strategies, deliberative governance and comprehensive impact assessments are still uncommon (Johnston, 2008; Foran et al., 2010a; Grumbine and Xu 2011

In Lao PDR, the Xayaburi dam, if completed, will be the first mainstream dam on the lower Mekong. This dam will produce 1,260 MW of electricity of which 95% is slated to be exported to Thailand. The dam is expected to displace 2130 people (ICEM, 2010). Inherent problems with EIAs in Lao PDR are demonstrated in the Xayaburi case. The government approved the initial Xayaburi dam EIA, but after it was publically released, it demonstrated a complete lack of understanding of the potential impact of the Mekong's first mainstream dam on fisheries, livelihoods, agriculture and biodiversity (Lanza, 2011). The Prior Consultation and Agreement (PNPCA) process by the MRC provided a discussion platform to highlight many of the concerns from Cambodia, Vietnam and NGOs. These concerns included the fact that the EIA only looked at impacts 10 kilometres downstream, had no baselines studies and had a public consultation process that only encompassed 8% of the people to be directly impacted by the project (Lanza, 2011; Stone, 2011).

The Houay Ho dam, completed in 1998 (150 MW of which 95% is exported to Thailand) is another example of the problems inherent in the EIA process in Lao PDR. Houay Ho's EIA was completed 2 years after construction (Khamin, 2008). As quoted in Khamin (2008) an observer from the former Ministry of Industry and Handicrafts, GoL, stated, "[i]t had a bad smell. We never got to see any studies for the project. I don't think any were done". In 2001, the ADB sent Electrowatt-PA Consulting to the Houay Ho site to complete an assessment of the resettlement. The report stated that "[i]mprovement in the implementation of resettlement programs for IPP [independent power producer] projects is required – a significant part of the agreed basic requirements of relocates from the Houay Ho and Xe Pian Xe Namnoi sites have still not been met" (ADB, 2003). The report also highlighted a number of problems with the resettlement, including poor water quality and quantity, insufficient land for livestock grazing, poorly equipped schools and clinics (ADB, 2003). The dam, which displaced approximately 4000 people, has yet to provide compensation to affected villagers (Delang and Toro, 2011). The profits from construction costs appear to have taken precedence over engineering, social and environmental concerns.

Nam Mang 3 (50 MW of which 95% is exported to Thailand) was also built without an EIA (Mainusch et al., 2009). The dam was constructed based on a pre-feasibility drawing without proper engineering

design (RMR, 2002). The EIA for the dam, which was completed after construction, estimated that 2745 people would be affected and mitigation costs would reach US$6.6 million placing serious questions on the financial viability of the dam (RMR, 2002). As stated in RMR's (2002) consulting report "[t]here is no doubt that Electricité du Laos (EdL)'s capacity to manage the Project's social and environmental impacts, and GoL's capacity to monitor and enforce national environmental regulations need to be much expanded". No information on the construction of the dam was provided to affected villagers. This resulted in 40 armed villagers marching to the project site demanding information on compensation and relocation (International Rivers, 2003). This remains one of the few instances when villagers protested against a hydropower dam in Lao PDR.

EIAs in Lao PDR have many other issues. Few EIAs have been publicly released despite this being a requirement under the Environmental Protection Law (1999). Without releasing EIA documents for hydropower dams the public is unable to properly engage in the process. The value of public participation in EIAs has been well documented (see Kersten, 2009; O'Faircheaallaigh, 2010). Yet, issues of participation still exist in Lao PDR. The Nam Theun 2 (1070 MW of which 95% is exported to Thailand), considered a World Bank flagship development, has been highly criticised by Sing (2009) for its lack of meaningful participation. Sing (2009) also found that villagers were reluctant to speak out against the project for fear of government backlash. Johnston (2008) found that EIAs in Lao PDR do not properly assess the impact of projects on fisheries and that existing data are not being effectively used while, Foran et al. (2010a) found that the environmental and social impact assessments are affected by corruption and lack of both transparency and quality control, stating that "hydropower concessions appear to be assigned to concessionaries on an ad hoc basis by GoL officials, rather than on a competitive or merit process".

The varied challenges facing impact assessments including lack of capacity to regulate, implement and monitor as well as issues of transparency and corruption in Lao PDR provide further opportunities for powerful actors to downplay social and environmental costs and create water grabbing opportunities.

Corruption, although difficult to detect, has been studied as a major issue in Lao PDR (Stuart-Fox, 2006, 2011; Linter, 2008). Lao PDR was ranked 154th out of 183 countries in the Index of Transparency International's (2011) Corruption Perceptions, suggesting it is one of the most corrupt countries on earth. As Stuart-Fox (2011) states "[c]orruption is the ogre in the woodpile of Lao politics. It extends throughout the bureaucracy and the police and security forces". Despite anti-corruption laws in the country, no senior official has ever been indicted (ibid). One explanation for the 2011 resignation of Prime Minister Bouasone Bouphavanh is attributed to his attempt to tackle corruption in the country (ibid). If this is true, it serves as an acute example of the grip that corruption has taken on the country.

Few studies have been conducted on corruption in Mekong hydropower development. However, with high levels of corruption existing in Lao PDR and hydropower representing multimillion and occasionally multibillion dollar projects, opportunities for powerful actors to engage in corrupt practices are abundant. Corruption could appear in a variety of forms throughout the hydropower development process. It could emerge in loans, inflated construction contracts, in direct cash payments for project approval or nepotism. The analysis of energy security in South-East Asia by Simpson (2007) shows that powerful actors from Thailand's energy sector use the corruption and tight state control in Lao PDR as a conduit to externalise the environmental and social costs of energy production. Foran et al. (2010a) found that in hydropower decisions in Lao PDR can be guided by profit without transparency, participation or planning. This author's research into levels of corruption in hydropower development through interviews with consultants, NGOs, industry representatives and academics, place figures of between 5-20% of hydropower costs, depending on the size of the project, paid in corruption money. The Xayaburi dam is estimated to cost US$3.8 billion (Stone, 2011). Taking a conservative estimate of 5% of construction costs going to corruption money this dam would add US$190 million in personal wealth to powerful actors across the region. Despite the difficulties in gaining direct evidence of corruption, the potentially huge personal gains for powerful actors at decision-making levels make it

possible to understand how environmental and social concerns, engineering safety and overall resource basin planning can be de-prioritised.

The existence of corruption and abuse of power are further exacerbated by a lack of transparency. Lao PDR is a tightly controlled authoritarian regime with almost no transparency in official affairs. In the 2011 Economic Freedom World Ranking Lao PDR was placed 141st out of 179 countries. This ranking examines 10 benchmarks that include, freedom from corruption, government spending and property rights. The ranking of Lao PDR provides an indication of the opportunities that exist for powerful actors to use money and influence to push projects forward while ignoring potential impacts. This lack of transparency is also found in the state-controlled press, which limits what information is reaching the Lao PDR population. Hydropower decision-making in Laos rests in the hands of powerful state actors with little or no accountability. These factors have given rise to central and provincial governments focusing on short-term economic gains. Potential profits from hydropower are contributing to the rapid pace of hydropower development (see figure 2.). This enabling environment also means that despite the existence of strong environmental protection laws in Lao PDR, many developers are able to bypass the laws, thereby saving millions of dollars in social and environmental impact mitigation and engineering costs (Simpson, 2007).

Although the government has promoted hydropower's potential income as a step towards bringing Lao PDR out of poverty, there are concerns whether the money generated from hydropower electricity sales will actually reach the local economy and address social priorities. Lao PDR has an abysmal record on spending on social programmes. The country is ranked one of the lowest countries on earth for education and health care spending. In 2010, the country's health budget was approximately US$6 million (Thomé and Pholsena, 2008; Vostroknutova et al., 2010). There are serious concerns that hydropower will become a resource curse scenario in Lao PDR (Simpson, 2007; Goto, 2011; Jusi, 2011). Natural resources as such are, however, not responsible for 'curse scenarios'. As Karl (1997) points out it is the institutional, economic and political structures that control how the benefits of natural resources are used that cause problems. In many other countries around the world, civil society is able to put pressure on state and private actors to influence investments and policy and give voice to the environment; however, in Lao PDR this scrutiny is tightly controlled.

Although civil society in Thailand has been effective at influencing government agenda and private-sector investment, the same cannot be said of Lao PDR. Lao PDR's predominately rural population, state-controlled press and authoritarian government have contributed to weak grassroots civil society movements throughout the country. Domestic civil society is almost non-existent. In 2009, Lao PDR signed the International Covenant on Civil and Political Rights establishing a legal framework to allow the licensing of NGOs (UNTC, 2012). Despite this treaty, the GoL has strict rules under which INGOs can operate within the country, and does not allow the formation of grassroots civil societies (Case, 2011). The terrain of civil society in Lao PDR is predominately represented by the dozens of international NGOs (INGOs) working in the region. Many such organisations are working on hydropower and water management issues. However, their effectiveness in influencing hydropower decision-making has been limited and reactive as many decisions are made behind closed doors.

INGOs are required to submit information they publicise to the government and they are forbidden to travel freely in the country and talking to people unchecked. As Heurlin (2009) states, in his analysis of civil society under dictatorships, Lao PDR is a socialist state that does not have the financial means to implement development and infrastructural projects and therefore it allows INGOs to operate with certain controls and tightly restricts grassroots organisations. INGOs are vulnerable to the charge of representing outsiders who have no stake in the economic development of the country. By controlling the space in which INGOs operate, the GoL is able to appear to work closely with NGOs, but avoid much of their domestic policy pressure and influence. It may be possible that the GoL's control of INGOs combined with the suppression of grassroots NGOs constitutes a form of manufactured consent. The issue of corruption may also play an important part in limiting the effectiveness of civil society to

influence state policies. When millions of dollars in personal gain are at stake for powerful actors from hydropower developments it is extremely difficult for civil society voices to be heard or respected.

Investment incentives from Thailand and an environment in Lao PDR that has a weak capacity to regulate development, corruption, and no grassroots civil society offer powerful actors opportunities to maximise profits by ignoring the social, engineering and environmental costs of hydropower. As discussed, these conditions negatively impact on Lao PDR's water resources and the local people who depend on them thereby resulting in water grabbing. This water grabbing is further enabled by the types of cooperation that exist regionally within the basin.

THE ROLE OF STATE COOPERATION

There is much literature promoting the value of cooperation and the value of cooperating institutions (e.g. Savenije and van der Zaag, 2000). Wolf et al. (2003a) identified that the negative effects of unilateral development, such as a large-scale dam, can be mitigated by the presence of positive regional relations or an effective transboundary institution (see also Wolf et al., 2003b; Yoffe et al., 2004). Yet, it can be argued that many of these institutions serve economic focused development interests that are not especially representative of the broader population. And as Selby (2003) has pointed out in relation to transboundary institutions along the Jordan river, domination can be dressed up as cooperation.

In South-East Asia regional cooperation is promoted both in the political discourse of Association of South-East Asian Nations (ASEAN) and in water resources management. Despite the promotion of cooperation the analysis shows that states are focusing on their own economic growth rather than attempting to jointly manage the shared water resources of the basin. In an environment of economic-led development, state actors, such as EGAT and decision makers within the Government of Lao PDR, are able to exploit water resources justified by energy requirements and economic growth, while externalising the cost of this exploitation.

This guise of regional cooperation clears a path for water grabbing to occur by hindering opportunities for strong cooperation and meaningful dialogue over the governance of shared water resources. The boundaries of state cooperation in South-East Asia are firstly evidenced in regional politics. The analyses of the cultural limits of cooperation in the ASEAN by Jetschke and Rüland (2009) show that rhetoric and reality of cooperation are very different. ASEAN member states continually affirm their commitment to regional cooperation yet "they continue to stick to self-interested policies to the detriment of ASEAN's collective interests" (ibid). In the case of hydropower, the self-interested policies are focused on economic growth, energy security and profiteering for powerful state and private actors; and the detriment of collective interests is the shared water resources and biodiversity in the basin and the people who depend on it.

Within the water-energy nexus in the Mekong, the World Bank and ADB's Greater Mekong Sub-region (GMS) programme has been important in shaping energy policy and water management in the region (Nakhooda, 2011). Initiated in 1992, the GMS programme is a private-sector-led economic cooperation programme with a long-term goal to develop economic relationships among the basin countries (ADB, 2012). A key aspect of the GMS programme is the interconnectivity of the member countries to facilitate trade. The term GMS assumes regional homogeneity and ignores the diversity of the peoples and environments. The GMS's interconnectivity focuses on infrastructural projects including roads, electric transmission lines, and railways (ADB, 2012). The Mekong Power Grid is designed to develop a regional power market by promoting cooperation in hydropower and cross-border high-voltage transmission lines (ADB, 2012). The GMS mandate to promote interconnectivity and hydropower including private sector investment in mainstream and tributary dams conflicts with the findings of the MRC's Strategic Environment Assessment that called for a moratorium on mainstream dams. The GMS programme's focus on economic growth over environmental and social concerns has marginalised the role of the MRC in transboundary water governance (Suhardiman et al., 2012).

The MRC is the primary regional river basin organisation in the Mekong basin. The MRC's current structure dates back to 1995, with the signing of an agreement between the governments of Thailand, Cambodia, Lao PDR, and Vietnam. China and Burma were invited to join the MRC; however, they decided to remain on the side-lines and only participate as non-binding dialogue members. The MRC's mandate states that the organisation will "cooperate in all fields of sustainable development, utilisation, management and conservation of the water and related resources of the Mekong river basin" and "ensure reasonable and equitable use" of the Mekong River System (MRC, 2009). The MRC is largely dependent on donor funding. The key donors are the governments of Australia, Belgium, Denmark, Finland, France, The Netherlands, and Sweden (KPMG, 2009).

Although the MRC has a mandate to cooperate on development including mainstream and tributary dams, to date it has largely only managed to gain cooperation from its member states on apolitical issues. The MRC has created a number of river monitoring programmes that have gathered large amounts of data with limited effectiveness in analysing trade-offs to inform decision-makers and creating a platform for discussion (Dore and Lazarus, 2009).

The analysis of transboundary water governance in the Mekong by Suhardiman et al. (2012) shows that there is a large disconnect between the MRC's programme objectives and those of regional governments. The MRC's donor-driven priorities, mainly focused on participation and IWRM, operate regardless of national government's development plans and their interest in the MRC's programmes. This disconnect allows governments to implement policies of self-interest development "because the MRC lacks power to direct transboundary water governance issues in the region" (ibid).

Further examples of scalar disconnect between the MRC and the regional governments are evident in the case of the Xayaburi dam, the lower Mekong's first mainstream dam. The MRC's mandate includes a process for mainstream dam development. The first step is the Preliminary Design Guidance that required all developers to follow a "range of minimum standards, performance targets and best practices for reducing the environmental and social risks posed by hydropower schemes" (MRC, 2009). These standards are followed by a Procedure for Notification, Prior Consultation and Agreement (PNPCA) process. The PNPCA process begins when member states give notice to the MRC of their intention to build a mainstream dam. In the case of the Xayaburi dam, the last meeting of the MRC Joint Committee deferred the decision to approve the dam to the ministerial level. On 8th December 2011, the MRC Council members concluded that further studies were required before a mainstream dam is constructed (MRC, 2011). According to the MRC, no single country can determine whether the PNPCA process is complete. Despite this announcement, the GoL and the Thai government stated that the PNPCA process is complete and moved forward with the construction of the dam (Pöyry, 2011; Kozlovski, 2012; The Economist, 2012). In 2012, due to strong objections from Cambodia and Vietnam and international political and civil society pressure the Xayaburi construction appears to have finally been suspended until further impact studies are conducted (Ganjanakhundee, 2012). Despite the halt of construction, questions remain over the MRC's effectiveness in dealing with issues that are counter to regional governments' goals of short-term economic gain.

The MRC's mandate, which limits the consultation process to mainstream dams, allows powerful actors to exploit water grabbing opportunities that involve water from Mekong tributaries without attracting the attention and debate of mainstream dams. Projects such as the Thai Water Grid, which is a proposal to carry water from Mekong tributaries under the Mekong to North-East Thailand, can proceed with only a notification requirement (Molle and Floch, 2008; Hirsch, 2012). The MRC appears to have no jurisdiction over the Thai Water Grid because it is a bilateral issue outside of its framework (Hirsch, 2012). Tributary dams also seem to be outside of the MRC's jurisdiction. Despite being outside of the MRC's mandate tributary dams have the potential to impact the entire basin. The analysis of Ziv et al. (2012) states that the combined effects of tributary dams in Lao PDR would be more detrimental than the proposed mainstream dams.

Although the MRC appears to be caught between the short-term economic focused water resources management agendas of the Mekong states, its value in providing a platform for issues such as

mainstream dams to be discussed cannot be overlooked (Suhardiman et al., 2012). The MRC creates a window for civil society, academics and the media to engage with some state development agendas. The MRC's efforts in providing a space for discourses to be debated has proved useful, but hydropower dams and water grabbing opportunities in Lao PDR are still occurring at a rapid pace.

CONCLUSION

Water grabbing in Lao PDR is in the making because powerful actors within Thailand and Lao PDR (those who stand to win) are controlling the benefits of hydropower dams while the costs of this development are absorbed by the environment and natural-resource dependent groups (those who stand to lose). The analysis shows that key drivers from Thailand emerge from the state and the private sector. EGAT, Thai IPPs and the private sector are driven to build hydropower due to profits and power. Large-scale hydropower projects are further encouraged by the structure of the Thai energy sector that incentivises large investments and the inability of the Thai government to develop dams in its own backyard due to a strong civil society.

Powerful actors and drivers from Thailand converge with enabling factors from within Lao PDR. The government of Lao's openness to investment, a lack of capacity to regulate development, the existence of corruption and a closed state that controls INGOs and forbids grassroots civil society provide an environment that enables these powerful actors to capture the benefits of hydropower development while neglecting the social and environmental costs. Encompassing these drivers from Thailand and enabling factors from Lao PDR, regional politics appears to be focused on profits and short-term economic gains. The MRC's agenda has limited influence over regional politics thereby further enabling opportunities for water grabbing.

The actors impacted by water grabbing in the Mekong are the environment and millions of people dependent on natural resources. The basin's unique biodiversity and the people who depend on it for their livelihoods and food will be devastated if powerful actors are allowed to continue water grabbing unchecked.

The existing global hydropower boom, like the one in the Mekong, has the potential to bring positive benefits to people and the global environment. Hydropower will certainly be an element of future energy provision. However, the stakes of development have been raised. The remaining global hydropower potential exists in an arguably different social and physical environment than where many previous large-scale dams were built. Hydropower projects in Africa, Asia and Latin America are being proposed in some of the most bio-diverse areas of the world. These areas are also inhabited by large populations dependent on natural resources, ethnic minorities and vulnerable people. What is of importance for the Mekong and the rest of the world is that progress is made to ensure that benefits are equitably shared and there is a better balance between winners and losers.

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